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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,859	07/06/2001	Graham Stewart Brandon Street	0787-0117P	1301

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

CHANG, AUDREY Y

ART UNIT PAPER NUMBER

2872

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,859

Applicant(s)

STREET, GRAHAM STEWART
BRANDON

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2872

DETAILED ACTION

Remark

- This Office Action is in response to applicant's preliminary amendment file don July 6, 2001, which has been entered as paper number 6.
- By this amendment, the applicant has amended claims 1 and 14.
- Claims 1-16 remain pending in this application.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the image plane", "the image axis", "the CCD array", "the second plurality of light transmitting and light blocking regions", "the second image plane", "the second image axis", "the first cylindrical lens" and "the second cylindrical lens" recited in the various claims must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-13 and 14-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to

Art Unit: 2872

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification and the claims fail to teach *adequately* that how could the first convergent means being fixed to the second substrate is capable of both collimating and reimaging the light beams. The applicant is respectfully reminded that “collimating”, which means making parallel, is completely different from “reimaging”, which means making converging or focusing, function. Claims 2-13 and 15-16 inherit the rejection from their respective based claim.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-13 and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The claims are generally *narrative and indefinite*, failing to conform with current U.S. practice. The claim language is full of *errors, confusions and indefiniteness*. It appears the claims are drafted *without proper proof reading* so that it is very confusing and it is not sure at all what are the metes and bounds of the claims that are sought for patent. The applicant is respectfully reminded that it is *applicant's responsibilities* to correct **ALL** of the *discrepancies* in the claims to make the claims in comply with the requirements of 35 USC 112, first and second paragraphs. The examiner can only point out a few as follows.

The phrase “*encoding* of relative position” recited in claims 1 and 14 is confusing and indefinite since it is not clear what does it mean at all. To the least, the claims fail to specify the relative position is referred to what and between what. Also it is not clear how can one “encode” a relative position?

The alternative phrase “and/or” is indefinite since the scopes of claims are not defined.

Art Unit: 2872

The phrase "said object place", "said light plane", "said first image plane", "said first image patter", "said first image portion", "the widths", "said first image pattern" etc. recited in the various claims are indefinite and confusing since they each lacks proper antecedent basis. These render the scopes of the claims very unclear.

The phrase "image axis" and the phrase "object axis" recited in the various claims are confusing and indefinite since it is not clear what do these axes mean.

The claims are also are *incomplete* since the claims fail to teach the *structural relationships* between the "second plurality of light transmitting and light blocking regions" with the "second convergent means" and the "first plurality of light transmitting and light blocking regions" with the "first convergent means". This renders the scopes of the claims unclear.

The phrase "lens elements" recited in claim 3 is indefinite since it is not clear how does it relate to the "first cylindrical lens element" recited in its based claims.

The phrase "in use" recited in various claims is indefinite since it is not clear what does it mean.

The phrase "is not repeated within" recited in claim 15 is confusing and indefinite since it is not clear *what* is not repeated within.

Clarifications to the claims are required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2872

7. Claims 1-13 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to PCT application to Street (WO 97/22033) in view of the patent issued to Young (PN, 5,689,340).

The claims are drafted with numerous errors, confusions and indefiniteness for the reasons stated above, which make the understanding of the claims very difficult. They can only be examined with the best and broadest interpretation of the examiner.

Street teaches an *autostereoscopic image display* that is comprised of a *mask* (21) having checkerboard arrangement of *light transmitting and light blocking regions*, (please see Figure 3). The checkerboard arrangement can be arbitrarily divided to include *two* sets of *plurality* of light transmitting and blocking regions formed on a single substrate, serves as the first substrate. The display further comprises a *first lenticular lens* (27) having at least one cylindrical lens element, that serves as the *first convergent means*, and a *second lenticular lens* (29), serves as the *second convergent means*, together for either collimating or reimaging the light beams originated from the transmitting regions of the mask to the locations of a display device (30), (please see Figure 3). The two lenticular lenses have orthogonally oriented cylindrical lens elements. The pattern of the light transmitting and blocking regions on the mask serves as the object pattern that is reimaged at the location of the display device, which serves as the image plane. The two sets of plurality of light transmitting and light blocking regions comprise a plurality of juxtaposed stripes, (please see Figure 3). It is *implicitly true* that the *relative positions* between the mask and the lenticular lenses are well defined by the lens maker's equation in the optics which essentially involves the *geometric* relationships between the object size and location, the image size, the relative distances between the mask, which acts as the object pattern, and the lenticular lenses and the relative distance between the image locations and the lenticular lens and the focal lengths of the lenses.

Art Unit: 2872

Although this reference does not teach explicitly to “encode” the relative position such feature cannot be examine in details here since the specification and the claims fail to teach such feature in a definite manner. *Young* however in the same filed of endeavor teaches a *vision measurement system* (10, Figure 1) and method for measuring a lenticular material (14, Figure 1) wherein backlight sources are used to generate light through the lenticular material to form bright image pattern of the lenticular material on a plurality of sensors (20), including a 2-dimensiona array of CCD sensors, at the image plane for detecting the image pattern formed. The obtained image pattern on the CCD sensors is then feed into a vision measurement computer to calculate the desired location and alignment information of the lenticular material, (please see Figure 1). It would then have been obvious to one skilled in the art to apply the teachings of vision measurement system of *Young* to inspect and measure the positions and alignment of the autostereoscopic image display arrangement of *Street* for the benefit of achieving a more accurate alignment and the relative locations for the various optical elements in the display system which will definite improve the image display quality.

The image pattern and the inclination of the image pattern are considered to by obvious matters of design choices to one skilled in the art since they does not effect the distance calculation between the lens elements and the mask. Although the *Street* reference does not teach specifically that the two lenticular lenses are formed on a single substrate however such design is very well known in the art and they are considered to be art recognized equivalents to one skilled in the art.

These references do not teach to include an aperture means explicitly. However *Young* does teach that the inspection and calculation could be limited to only “coded” areas of the lenticular material. It is therefore either implicitly true or an obvious modification to one skilled in the art to use an aperture means to limit the measurement only be done at desired location.

The position of the lenticular lenses certainly can be adjusted to the least manually by an operator's hands.

Art Unit: 2872

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.
July 12, 2002

A handwritten signature in black ink, appearing to be 'Audrey Y. Chang', written in a cursive style.